



DACE

DIABLO VALLEY ATARI NEWSLETTER COMPUTER ENTHUSIASTS

JUNE 1987

RETURN ADDRESS

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MEETING SCHEDULE

The next three Meetings of DACE will be held at the **Contra Costa Water Building** located at 1131 **Concord Ave.** in Concord

Thursday - June 4th - 7PM
Thursday - July 2nd - 7PM
Thursday - Aug. 6th - 7PM

JUNE MEETING TOPIC

ST software demos and a suprise guest speaker . . . And this month DACE will raffle off another modem in addition to our **WONDERFUL** 8 bit software raffle. 8-bit and ST Disk of the Month. **SI YA**



PRESIDENTS PAGE

by
MARK BUTLER



Hello again everybody!

All sorts of interesting things have been happening lately. The May meeting was a great one. If you didn't come you missed a lot of fun. We had a game playing contest using one of the programs from a previous disk of the month (Air Hockey). Just about everybody participated and had a good time. When the smoke cleared it was down to the last three.

The tension was thick, it was getting late and the players were tired. Everyone clustered around the big screen. First place was all locked up by undefeated Phillip Dickerson but second and third was hotly contested by Big Mike and Chris Wilson. As the game began cheers rang out after each point. Mike and Chris sat tense staring at the screen willing the puck to move somewhere close to where they wanted it to go. Finally it was over and it was time for the awards ceremony.

THIRD PLACE trophy went to Chris Wilson in recognition for his blazing joy stick work.

SECOND PLACE trophy went to Big Mike in recognition of his amazing ability to psyche out his opponent.

FIRST PLACE trophy went to that brash upstart PHILIP DICKERSON in recognition of his super strategy and reflexes.

I think everyone won however because we all had a good time and that is what it is all about. If you will let me get up on my soapbox for a moment I would like to talk a little about fun. I own a ATARI computer as a hobby because I want to have fun with it. That fun can be solving adventure games, drawing a nifty picture, writing a game for the disk of the month, getting the computer to tell me about how little I have left in the bank, or whatever.

The point is that I have a computer to have fun. It gives me an escape from the real world. Some people vegetate in front of the tube. Some people escape into books, others play racquetball or dance. Everyone needs some escape from the world of work and nuclear bombs. My ATARI acts as a refuge, when I turn it on I can enter any world I want and I can interact with that world unlike books or TV. However in most cases using the computer is a solitary activity that is why I particularly like DACE. It gives me a chance to get together with people who share the interest and fascination with my computer. To talk and converse and have fun with people I like and I hope like me. Sometimes we have serious discussions like when talking about ATARI

snubbing us in regards to this years fest. Other times we engage in friendly competition like this contest. But no matter what we do I have fun, because I am with people I like and doing things I like.

I hope you feel the same way because I want DACE to be a friendly club. I have heard that other clubs turn people off because they are run like a corporation, always money hungry and impersonal. We work very hard to make sure that DACE stays a friendly club. If you have any suggestions or comments please let one of us (your board members) know. If you like what we are doing please let us know also, it is tough to know how you are doing without any feedback.

Lets move on to a different subject. As I write this I have no idea of what the other contributors will write about so if I duplicate some of their articles I hope you understand. The big news at the meeting was the upcoming ATARI faire. It will be quite soon (the end of June I think) but DACE was never invited to participate this year. Also SLCC (San Leandro Computer Club) is very unhappy with ATARI's attitude about this faire. They want the user clubs to do all the legwork but ATARI pulls all the strings and keeps all the profit. Now the profit is not that big of a deal, sure it would be nice to add to the treasury but its not essential. The key thing here I think is ATARI's attitude. User groups exist because ATARI cannot provide individual attention to owners, nevertheless that doesn't mean they should be ignored. In fact a smart company would help the user groups, they don't ask for a lot and they can become a valuable sales force if given half a chance.

Anyway SLCC is so upset about all this that they have decided to boycott the faire. You voted to support the board in their decision and we are currently supporting the boycott. ATARI has called us and apologized profusely and at the time of this writing we are going to get together and decide what to do.

Stay tuned for bullitens.....

Don't forget coming in the June will be some great ST demos. I will try to show Star Raiders ST and GFL football, a game where you are down or the field not up in a blimp. You can see the guys running at you, see your own hands fumbling the ball, etc. Also this time we will have a great Disk of the Month! See you then.



MARK MY WORDS

by
Mark Hannan



With a quick flick of your joystick you blast a shot at the opponent's goal. You can't believe it. Your opponent didn't even move, but it hits his paddle and is rocketing back towards you. You zoom your paddle hard to the left, just missing the puck. Desperately you try to recover, the puck jumps up from your own back wall ... and hits on the wrong side of your own paddle. It then bounces into your own goal, scoring for the opponent. Aaaaarrgg. The agony of defeat. Such was the action in the first DACE computerized Air Hockey championship. The club awarded the top 3 winners with beautiful engraved brass and walnut plaques. I tried, but alas ... the preceding happened to me several times, so I was not one of the lucky ones. It was pretty exciting, and a lot of fun. I do not believe I have ever heard of any other club having a championship like this, but I am willing to bet we may see some in the future. I hope you people enjoyed it as much as I did. I want to thank the people who brought their 8 bit computers, so we could have three matches at once. We never would have finished in time without them.

Although we did not have a 8 bit disk of the month (because of a mix up), we did have our first DACE ST disk of the month. It has a lot of great stuff on it, and of course the best game on the disk (Plutos) was embarrassed and would not show itself at the meeting. It did work fine when I got mine home. Plutos is a game similar to the video arcade game "Xevous". The graphics are extremely fine on the color ST, and I am a little surprised that someone did not market this game. It is as good, or better than 75% of the things I have seen selling for the ATARI, or any computer for that matter.

Did you hear Big Mike's speech on this year's ATARI EXPO? My article this month was going to be very lengthy. I had written several pages blasting ATARI Corporation for the poor treatment that Big Mike and our club was getting over this matter, and some of the things they had done (or not done) to us in the past. However, I removed that portion of the article after receiving word that ATARI

apologized to Big Mike, and our club. As I understand it, they claim it was all just a mix up. Mark Butler plans to go to the meeting, in Sunnyvale, about our club's involvement in the Expo. In fact, I bought my 520 ST system there. Someone mentioned that the Expo was going to be held the Friday and Saturday, on the weekend of Father's day. Say, all you fathers out there. who could say no to Dad going to his favorite event of the year, on Father's day weekend?

Speaking of favorites, what is your favorite game, utility, computer language, etc. ? How about writing a review of it for one of the upcoming newsletters? I'm sure others would benefit from hearing about your experiences. Presently I am comparing several chess programs for both the 8 and 16 bit ATARIs. I will be including the reviews in one of the upcoming DACE articles, and we will be raffling both 8 and 16 bit chess programs off at a future meeting.

Come to the meeting Thursday June 4th, at the Contra Costa Water District Building. We start about 7 P.M. I understand that we might have more than one disk of the month in the ST line, and if we have a new 8 bit disk, we might have two 8 bit disks of the month (because of the mix up over last month's missing disk). See you there.

THE PUNCH LINE

Why must we have enough memory to recall to the tiniest detail what has happened to us, and not have enough to remember how many times we have told it to the same person?

One trouble with developing speed reading skills is that by the time you realize a book is boring you've already finished it.

No matter how busy people are, they are never too busy to stop and talk about how busy they are.



THE BASIC CORNER

by
Mark Butler



Welcome back!

This column is part of a continuing series in which we are developing a BASIC program from the ground up. Since we printed the complete program in last month's newsletter I will assume that anyone who is interested will have already typed it in. This month we will build on the program and create a workable, playable game. Remember it is much better if you sit down at your ATARI with this article and type along with me. Not only will you learn more by actually doing it, but at the end you will have already typed in all this month's code.

Last month we had created a working program. The little spaceship could fly around under joystick control. Gravity pulled it down towards the perilous mountains below. But whenever our intrepid spaceship touched anything it printed "END OF GAME". Not very exciting stuff. Our first task is to figure out what we want to happen at game end time.

```
If a mountain was hit we want to explode
If the landing pad was hit then we must
check to see if we hit too hard.
If we hit too hard we want to explode
Otherwise we get a victory message!
```

Obviously our first step is to decide how the computer will know if we hit a mountain or the landing pad. Since I had a little forethought way back at the beginning we drew the mountains in color 1 and the landing pad in color 2. What good does that do us? The locate command in 5080 returns the color of the spot on the screen. Instead of just checking for color 1 or color 2 let's change it so it does something different depending on what color is found:

```
5080 IF T1-1 OR T2-1 OR T3-1 THEN GOTO CRASH
5085 IF T1-2 OR T2-2 OR T3-2 THEN GOTO EOG
```

Since we are using a new variable (CRASH) we had better define it and use it so we won't get "LINE NOT FOUND" errors, like so:

```
1080 CRASH = 7000
7000 REM CRASH ROUTINE
```

Let's try it....It works! when the ship hits a mountain the game just ends (a sure sign that it was the CRASH routine because the EOG routine has a print statement in it).

One thing though is the ship is too sensitive. We need to slow down the rate of change caused by the joystick. Last month I asked you to try it, what did you come up with? You could have changed all those 1's and -1's in the MOVESHIP routine to be .5's for instance. But I think the best way is to create a new variable called THRUST and add a new line to the MOVESHIP routine to multiply DX and DY by thrust. Why do we create a variable? Because I can visualize a prompt in the start screen asking for speedy or sluggish response to the joystick and then we only have to change THRUST not rewrite whole sections of code.

```
1080 CRASH = 7000:THRUST = .5
4110 DX = DX*THRUST:DY = DY*THRUST
```

I like it, the ship responds beautifully. OK our next step is if the ship hits the landing pad too fast it must crash. How do we determine that? The ship's Y velocity is recorded in DELTAY at all times. I did what any good programmer would do, I played it until I had a landing that seemed as fast as I thought should be the maximum and printed out DELTAY. The number I got was 1.5 So we change our EOG routine to say:

```
6010 IF DELTAY > 1.5 THEN GOTO CRASH
```

Now we have all the pieces in place. If anything goes wrong we go to the CRASH routine otherwise we go to line 6020. Our task now is to come up with something neat for both routines. The CRASH routine should have a huge explosion with flaming pieces of shrapnell flying in all directions. The EOG routine should have a little guy come out and plant an American flag and play the National Anthem. Unfortunately this is BASIC and you just don't get those things. But we can do some nice stuff anyway. Let's start with the CRASH routine...

In any crash we have a loud bang and a bright

explosion. We can simulate the loud bang by using the SOUND commands. Sound pitch 0 is the lowest tone so we will want to use that. Also we don't want to use a distortion of 0 because that is a pure tone and how many explosions sound pure? We will use distortion 8 and the loudest sound we can get.

```
7010 SOUND 0,255,8,15:SOUND 1,255,8,15
```

Our next objective is to create the flash. The easiest way to do this is by changing the background from black to white then back to black again. Since in graphics 7 the background color is set by the SETCOLOR 4 command we could do this: SETCOLOR 4,0,15:SETCOLOR 4,0,0

But we must also remember that we have to make the sound go away and it cannot just stop it must fade away. That means a loop that will set the volume to smaller and smaller values. Perhaps we can put both together...

```
7020 FOR X = 15 TO 0 STEP -.1
```

This will start a loop with starting at 15 and going down to 0 in .1 increments. We picked 0 to 0 because that is what we want the sound volume to do; go from its present level of 15 down to nothing. The .1 is because BASIC loops pretty fast and we want the sound to fade slowly. By using the .1 we are saying BASIC must loop 10 times for each 1 reduction in X.

```
7030 SETCOLOR 4,0,15:SETCOLOR 4,0,0
```

This flashes our screen for us.

```
7040 SOUND 0,255,8,X:SOUND 1,255,8,X
```

This sets the sound loudness to the current level of X.

```
7050 NEXT X
```

End of loop. Lets try it...Not too bad! I did see a couple of things I want to change though. The spaceship is still there after the crash! We must erase it. That means setting the color to black (color 0) and plotting points:

```
7011 COLOR 0
```

```
7012 PLOT OLDY,OLDY
```

```
7013 PLOT OLDY+1,OLDY-1
```

```
7014 PLOT OLDY+2,OLDY
```

You will probably notice those are the exact same lines as in the DRAWLANDER routine. Of course, we used them to draw the ship, we use them to erase it. The other thing I thought would be nice would be to have the flash fade

in brightness along with the sound. We can accomplish that by changing the 15 in line 7030 to a X thereby setting the brightness to X just like we set the sound level to X. Our new 7030 looks like:

```
7030 SETCOLOR 4,0,X:SETCOLOR 4,0,0
```

Give it a try...Not too bad! Lets add a final message:

```
7060 PRINT "SORRY CHARLIE, BETTER LUCK  
NEXT TIME."
```

```
7070 END
```

Onward to the EOG routine... Nothing so dramatic happens when you land safely. In fact it is pretty boring but you should at least get a nice uplifting musical note. Lets try this:

```
6010 FOR X = 255 TO 50 STEP -10
```

```
6020 SOUND 0,X,10,10
```

```
6030 NEXT X
```

That makes a nice short boiipp sound. Lets put it inside of a random loop from 2 to 10 so we get a series of them but not the same number every time:

```
6005 FOR Y = 2 TO INT(RND(0)*8) + 2
```

```
6040 NEXT Y
```

```
6050 PRINT "CONGRATULATIONS! YOU MADE IT"
```

```
6060 END
```

Well there you have it a complete working game created from start to finish by you and me. I showed it to my wife and she thought it was really nice but she said the thrusters should make some noise also. So for next time give this a try: When you push the joystick button it should make some noise, not as loud as the explosion. When you let up on the button the noise should stop. Also lets add a score routine based on landing speed. Lets say the maximum score per landing is 500. The routine should count up from 1 and make a beep so as to be impressive.



WHAT IS THIS GDOS?

Reprinted from Current Notes
by John Antoniadis



One of the heavily used words in the ATARI ST jargon is GDOS. Quite a thing. Developers keep trying to get it, programs are not released because they are waiting for GDOS, and current programs are modified to use it.

No, it is not GEMDOS's little brother or even another name for it. It is the missing part of the Virtual Device Interface (VDI) of the ST, which is responsible for the device independent functions of the computer. Actually, GDOS stands for Graphics Operating System, and here are some of the services it provides:

1. Multiple fonts can be displayed simultaneously on any display device. Programmers frustrated with the vast load fonts routine will be finally satisfied. So will everybody else who likes the Macintosh's pretty screens.

2. Normalized Device Coordinates (NDC) can be used to draw pictures, which will automatically be converted by the GDOS device drivers into drawings which use the maximum resolution of the specific output device. So pictures can be displayed in any output device regardless of resolution and without any need for modification. NDC's provide the user with a (virtual) drawing screen with a resolution of 32767 x 32767 pixels. This should be enough for most applications.

3. Multiple work stations can be opened simultaneously with the `vopnwrk` subroutine, which means that several physical devices (the screen, a plotter, a printer, etc.) can be used by a single program during its execution.

4. The GEM metafiles described in the VDI manuals will also be available. A metafile is like the captain's log on the starship Enterprise. Any command that generates an object on an output device can be stored in a metafile, which is the same as videotaping the output device while the display is generated. So the picture can be played back at any time. To replay a videotape, you need a VCR which reads the tape and generates a TV picture. The device driver program is the VCR that replays metafiles. Device drivers convert metafile commands into pictures displayed on the device they were intended for. So to display the same picture onto a printer, a plotter, a camera, etc., all you need is the same metafile and several drivers. In addition, if all programs produced metafile output, the user needs one set of device drivers, one for each output device. (No more 1ST WORD drivers, DEGAS drivers, etc.) Some output devices are not capable of producing the output

of certain commands, so the device drivers normally ignore them.

This is maybe the most important part of the GEM since it supplies device independence and excellent quality output (as long as the output device can do it).

Note: The concept of a metafile, more commonly known as a device independent (DVI) file, is not a new idea. Programs like TEX, a professional phototypesetting system developed by Donald Knuth, GEMDRAW on IBMs, etc., use metafile-type output. So you can produce the file on a PC and print it on any printer connected to any computer as long as the appropriate metafile driver exists.

The absence of the GDOS from the ST ROM's is the reason that programs like EASY-DRAW and DEGAS ELITE ask you to reboot the computer before you use them. Actually, inside the AUTO folder of EASY-DRAW there is a little program named (surprisingly enough) GDOS.PRG. Actually, GDOS has a companion program called OUTPUT.PRG. This program uses the file ASSIGN.SYS to find the list of the existing device drivers and font files for each output device. (The EASY-DRAW versions of GDOS and OUTPUT are not the final releases.)

You have heard this before, but by the time you read this, GDOS should be available. So all of these long awaited programs, like the next generation word processors, painting, and drawing programs, should be rushing to market before long, armed with their multiple fonts and high quality printed output. Initially, finding device drivers for most output devices will not be trivial, but like everything else associated with the ST, not for long. The appearance of the GDOS should have another side-effect: maybe ATARI of DRI should produce a decent desktop program (multiple fonts, large icon library ala IBM-PC, GEM, etc.) as a favor to their poor users.

The material for this short description is derived from two main sources: Tim Oren's excellent article in the premier issue of START magazine, and the VDI manual which is part of the developer's kit. Tim's article is an excellent introduction to GDOS and should be required reading for anybody planning to use it. The VDI manual is a reference manual and not a tutorial, and seems to have been written for the IBM-PC, and you have to be careful with the documentation inside it.

MAKE IT YOURSELF

by
Jack Borde

As a subscriber of ANTIC Magazine I wait anxiously every month for my issue to see what illustrious genius has come up with new for my 8 bit ATARI. I was especially pleased to open my December 1986 (vol. 5 #8) issue to the stepper motor robot controller type in software program by Scott Kilbourne.

Not being a good or even a novice programmer myself I lean on others for help. Ron Hall a friend at work who is very good at programming offered to help as 2 heads are always better than one, and since Scott got us off to a nice start we thought it would be easy to change a little here and some there and we could make it move a telescope in altitude and azimuth or right ascension and declination. In the first case and easiest is degrees and the second hours minutes and degrees.

The other thing we wish to do is remove as many key strokes as possible and assign to paddle control at port one with port 2 and 3 for motor controls. This also meant establishing a zero point in altitude and running a clock in right ascension to compensate for the earth's rotation.

Well, with many lunch time sessions and with 2 or 3 hours a night for 3 months on Ron Hall's part the program is working and the 3 1/2 page program by Scott Kilbourne is now 7 1/2 pages long.

Also being worked on for future insertion is a library of 100 astronomical objects that by a single number insert on the key board will sleuth the telescope to point to an object.

The motors were acquired at the Odd Assortment in Pacheco for a mere \$6.00 each.

The electronic parts were obtained at Radio Shack and various plugs and parts at the computer swap meet.

I'll give our program to the disk librarian and hopefully sometime in the near future I will bring some hardware and demonstrate how it works.

WHAT I'VE HEARD

by
Uncle Chumley

The 520ST is no more . . . At least this is what good old Unc has heard. The 520ST is being replaced with the 520ST FM which has a built in single sided drive ala 1040ST. Rumor has it that these puppies are already being sold on the East Coast and as soon as all of the "old" 520STs are gone in the local area a FM is all you will be able to buy. What does the FM stand for? My guess is Floppy Modulator.

In the technology marches on department, our own Mr. Fixit has worked his wizardry again with jumping over the 1 meg hurdle. 2 and 4 meg mods to a standard 520ST are now a reality. Yours truly has seen the 4 meg ST "do its thing" flipping tiny pics at lightning fast Ram Disk speed. There is a problem though, with these "super meg machines" and it is not in the mod itself. There is an inherent bug in TOS or GEM (or both) that will only allow you to access approximately 1.7 megs of RAM at a time even though you can install a Ram Disk of 3.5 meg in your machine. In using Show Info on the 3.5 meg Disk yeilds a different check sum for the Bytes Available each time and this is without copying any new files to the Ram Disk. And I thought I was confused. This problem should disappear with the reputed new TOS that is rumored to be released soon by a company we all know. The TOS also reportedly fixes those nasty folder problems that hard drive users have run into.

Many of you have heard about the fair (Expo?) that ATARI is putting on for June 19th and 20th. Come to the June DACE meeting for more info on this event and, by gum, you might even be able to buy advance tickets to the event.

The word is out that a magazine you may already subscribe to is doing a review in its July issue of USA CONSTRUCTION SET. Looks like DACE got the scoop on them as I have seen a pre-released version of the newsletter. And if it is scoops you want, look for old Uncle Chum's exclusive DACE interview with an exciting new software company . . .



USA CONSTRUCTION SET

A 8 BIT SOFTWARE REVIEW by
BIG Mike



The USA CONSTRUCTION SET is a new program for the 8-bit machine from EZuse Software. *The USA CONSTRUCTION SET*, (hereafter referred to as *UCS*) was written by our own Jan Iverson and David Plotkin.

The *UCS* software package includes 3 single sided disks and a complete set of documentation. *UCS* is described as a "Text / Graphics oriented educational game" and will run on all systems with a minimum of 48K. BASIC and one or two disk drives are also required. A printer is optional and isn't necessary in order to play the game.

Booting the *UCS* main program disk displays a nice title screen which plays a snappy classical piece of music utilizing the Pokey Player. Hitting the start key takes you to the main menu. The main menu offers the option of playing the game or using the editor to enter your own data. More on the editor later.

The game itself is played in a quiz type format. Once the game option has been selected, you are brought to the States screen. A quiz is offered for each State in the U.S. and the District of Columbia. Choose the State you wish to take a quiz on by entering the two letter abbreviation for that respective State and press return. *UCS* will then draw a picture of that State and prompt you to insert the data disk in the appropriate drive and press start. After a brief load of the State's data from the disk, a question about that State will be asked. Answers are selected using either a joystick or the keyboard by scrolling through the answer data base. When you think you have the correct answer press either the space bar or the fire button. Ten points are scored for each correct answer and five points are deducted for every incorrect answer. You must answer correctly to progress to the next question. You can quit the game at any time by pressing the option key. There are approximately 20 questions provided for each State on the two data disks.

If you desire more questions about each State there is an editor provided with *UCS* which allows you to enter data for any one of the States. Each question takes one sector

on the disk and you are limited to 100 questions per State. Also, the question and answer can contain 60 characters each. The editor allows you to format a data disk, enter or edit data or print the data to a printer. The simple beauty of this feature is that it makes the *UCS* almost infinitely expandable with respect to the difficulty and amount of questions you can have in the game.

The documentation that accompanies the game is easily understood. The error trapping in the game makes it almost impossible to do something wrong (like inserting the wrong data disk). In fact, EZuse software really lives up to its name as this product is so easy to use it can be enjoyed by children and adults alike. Educators and parents will find *UCS* to be a great study aid for enhancing a students learning about each State in the Union.

This game isn't just for kids. I got much enjoyment from playing and I managed to learn some facts about the States.

UCS is a one player game which is not copy protected. EZuse provides a liberal return policy of \$3.00 per disk should your originals become damaged. Best of all *UCS* is inexpensive. The price is only \$9.95 plus \$1.55 shipping and handling. Order by sending a check or money order to:

EZuse Software
2850 Enea Way
Antioch, CA 94509

Jan will also offer *UCS* at the next DACE meeting at a special price to DACE members. If you wish to obtain your copy at the meeting give Jan a call at (415) 754-6026 so he can bring enough copies with him. *The USA Construction Set* will also be available in the June raffle.

Now, what is the principal agricultural product of Illinois?